

# CHEM DEMIL FACILITY HAS ACCIDENT-FREE DECADE

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## Introduction

The term “lost-time accident” refers to a job-related injury or illness that results in an employee being unable to work. In August 2001, the Chemical Demilitarization Training Facility (CDTF), a five-building complex located in the Edgewood Area of Aberdeen Proving Ground, MD, commemorated 10 years without a lost-time accident. The CDTF serves as a hands-on, agent-free training facility for personnel who operate and maintain the U.S. chemical weapons stockpile disposal facilities. The CDTF is a unique facility dedicated to training the workforce for the disposal program.

In 1985, Congress directed DOD to safely dispose of its chemical weapons stockpile. The Secretary of the Army announced that disposal facilities would be established under the administration of the Program Manager for Chemical Demilitarization's (PM, CD's) newly formed Chemical Stockpile Disposal Project on Johnston Island, 825 miles southwest of Hawaii, and at eight other sites across the country. Shortly thereafter, PM, CD identified the need to construct a dedicated training complex that would provide programmatic training support to personnel who would operate and maintain the disposal facilities.

In 1989, General Physics Corp. (GP), based in Columbia, MD, was awarded the initial contract to con-

struct the CDTF. GP not only built the \$17 million complex but also developed the CDTF's training program to include the use of disposal facility equipment such as rocket shear and multipurpose demilitarization machines.

This article describes the successful safety, training, and management practices that have allowed the CDTF to achieve its zero-accident record.

## Safety As A Priority

Ten years without a lost-time accident is an accomplishment in any industry. The CDTF credits its Occupational Safety and Health Administration Voluntary Protection Program (VPP) for its successful accident-free record. The VPP is the underlying structure of the CDTF's safety program, which consists of but is not limited to the following elements:

- Involving top management in the structure and operation of the program,
- Inspecting sites regularly for safety and health,
- Investigating accidents and “near-miss” incidents,
- Identifying all hazards by conducting baseline work-site surveys,
- Analyzing injury and illness trends, and
- Training to ensure that all employees understand the hazards

to which they may be exposed to prevent harm to themselves and others.

The Project Manager for Chemical Stockpile Disposal (PM, CSD) assigns responsibilities for all aspects of the program so that managers, supervisors, and employees know what is expected of them. This helps create an atmosphere where all workers are accountable for upholding safety requirements and ensuring that their teammates adhere to them.

## CDTF Training

Since its inception, the CDTF has conducted more than 5,600 classes and trained more than 28,000 employees from various chemical demilitarization program areas. The training facility was also the first organization to systemize the multi-purpose demilitarization, projectile/mortar disassembly and mine disassembly machines, and bulk drain station. Test plans and control codes from the CDTF were used to support the disposal startup efforts at the Tooele Chemical Agent Disposal Facility (TOCDF) in Tooele, UT, and the Johnston Atoll Chemical Agent Disposal System in the Pacific.

## System Simulator Upgrade

The CDTF training program also makes use of a process control system simulator (PCSS), which GP recently upgraded at the request of

PM, CSD. The new PCSS consists of six operator control stations and one instructor station. Each station operates as an Ethernet LAN running on a Windows NT server. Each of the six operator control stations consists of a single PC and two monitors. The instructor station allows the user to insert faults and monitor and control each of the six control station simulations concurrently.

The GP CDTF Simulation Group headed the design and implementation of the upgraded PCSS. Required software licenses and hardware were identified and purchased and process software was developed to function with the LAN-based PCSS. Other product designs and implementations included systemization, product documentation and training material design and development, and advanced training system and equipment fault scenario development. The improved PCSS serves several functions within the chemical stockpile disposal training program. For example, in addition to evaluating hazardous waste incinerator operators, it provides:

- Initial skill and knowledge training for hazardous waste incinerator operators,
- Control room team skill training, and
- Self-paced practice in relevant job skills.

The system upgrade has also allowed a larger number of students to concurrently operate independent copies of the equipment or system, increasing the time students can spend performing and practicing all of the required skills and techniques. For example, individual trainee performance and practice time increased from 8 to 32 hours per course.

GP's PCSS hardware and software upgrade is a cost-effective expansion of CDTF's training simulator capabilities. The PCSS is in full operation at

the CDTF and at the TOCDF. At the time this article was submitted for publication, the system was being installed at the Umatilla Chemical Agent Disposal Facility, Hermiston, OR, and the Anniston Chemical Agent Disposal Facility, Anniston, AL. The PCSS is also scheduled to be installed at the Pine Bluff Chemical Agent Disposal Facility, Pine Bluff, AK.

## Curriculum

Along with simulator training, the CDTF offers 2,000 hours of curriculum ranging from basic introductory courses such as toxic area training to highly specialized workshops and emergency response training. For example, toxic area training provides students with the knowledge and skills needed to work with chemical agents. Consisting of 8 hours of classroom instruction followed by 40 hours of hands-on practical exercises, toxic area training includes instruction in emergency response procedures and the proper use of protective clothing and decontamination equipment. Practical exercises are also conducted in a non-toxic environment and are designed to build employee confidence in his or her ability to work safely in a hazardous environment.

After individuals successfully complete training at the CDTF, they are considered qualified to perform their assigned duties at their respective chemical disposal facilities. Upon returning to their facility, the former CDTF students receive further classroom and on-the-job training. Individuals must successfully complete all training and evaluations before being certified by the chemical demilitarization facility systems contractor.

## Managing For Success

The systems contractor for training, GP, currently administers the CDTF. GP is responsible for providing programmatic skills and training on

common and demilitarization-unique equipment and systems. The company oversees a team of professionals responsible for safety, quality assurance and control, project support, instructional systems, training operations, and engineering. This team specifically does the following:

- Analyzes the work to be performed at the various disposal sites and determines necessary training,
- Recommends training materials to be developed,
- Updates and maintains the integrity of the training,
- Achieves the highest level of cost-effective CDTF availability, and
- Provides public affairs support.

## Conclusion

CDTF personnel have successfully shown that when maintaining and operating a chemical disposal facility, there is no room for error. This dedication to preserving the safety and health of the public has earned the CDTF its zero-accident record.

"I am proud of and impressed by the CDTF's accomplishments over the past 10 years," said James Bacon, Program Manager for Chemical Demilitarization. "It has provided PM, CD with a dedicated, well-trained workforce that is aware of its importance to the success of our disposal program."

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